Nevada HIT Research

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Executive Summary

This study provides background information regarding implementation of statewide HIT in Nevada. Each state is charged with creating an HIT model that best serves its stakeholders. As discussions within subcommittees have progressed, questions have arisen. This report presents some of those questions and strategies used by states in addressing them.

The primary information sources are the state plans of California, Colorado, Utah, New Mexico, Maryland, Illinois, Washington, North Carolina, Vermont, Minnesota, Nebraska, and New Jersey. The plans for New Mexico, Maryland, and Utah have been approved by the ONC. Supplementary sources are listed in the references. All direct quotes will be italicized.

This report contains the following sections:

1. Governance
    a) What is the role of the State Designated Entity (SDE) in operations?
    b) What is the public/private mix of the statewide HIE?
    c) How do SDE's assure user adherence to policies?
    d) What is the structure of the governing body?
    e) How will quality and performance standards be determined and monitored?

2. Finance
    a) How will the initial infrastructure for the HIT/HIE be paid for?
    b) How will continuing operations be financially sustainable?

3. IT
    a) What type of model/how will data be stored?
    b) How will privacy be guaranteed
    c) How will existing HIE's be incorporated into the statewide HIE?
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    e) Can consumers access/verify information?

4. Appendices
    a) State HIE's
    b) Governance Roles Identified By North Carolina

5. References

Governance: Section 1a

What is the role of the State Designated Entity in operations?

- **Overview:**

  The state entity can choose to perform the duties of statewide HIE operator, or they can contract that work out to vendors. So, an SDE can perform operations or provide standards to guide contracted operators. To design appropriate strategies, states must consider factors such as technical competence, initial set-up cost, operating cost, legal liability, contracting authority, and functionality performance standards.

  - North Carolina's Strategic Plan identifies two important and distinct roles:
    - ***Governance:*** *develop consensus, coordinate policies and procedures to secure data sharing, and lead and oversee statewide HIE.*
    - ***Technical operations:*** *An optional and variable role to manage and operate the technical infrastructure, services, and/or applications to support statewide HIE. The table below identifies the functions and core tasks across the governance and technical operator roles.*

- **What are other states doing?**
  - North Carolina/Maryland – North Carolina and Maryland have assumed the role of the central hub of a distributed architecture model. They will provide the platform to connect and expand upon the existing efforts of regional exchanges. The roles they have identified are illustrated in Appendix B.
  - Utah – The Utah Department of Health, through Utah Health Information Network (UHIN), will set guidelines and oversee the activities of the participating members of the Clinical Health Information Exchange (cHIE). Technology and platforms will be maintained by a subcontractor to the state.
  - Vermont – Vermont Information Technology Leaders (VITL) is charged with the technical implementation of the statewide HIE. However, the State of Vermont, through the Division of Health Care Reform, will be the fiscal agent for funding through the Cooperative Agreement.
  - Illinois – The statewide Authority will concentrate on standards and infrastructure. Data storage and generation will remain a responsibility of the various distributed users. To achieve statewide coordination and interoperability, the distributed data will be connected by a series of common tools including the Master Patient Index, Record Locator Service, and Provider/Payer Directories. Statutory responsibilities include:
    - *Create and administer the Illinois HIE using information systems and processes that are secure, are cost effective, and meet all other relevant privacy and security requirements under State and federal law.*
    - *Establish and adopt the standards and requirements for the use of health information and the requirements for participation in the Illinois HIE by persons or entities, including health care providers, payers, and local HIEs.*

- *Establish minimum standards for accessing the Illinois HIE to ensure that the appropriate security and privacy protections apply to health information, consistent with applicable federal and state standards and laws.*
- *Suspend, limit or terminate the right to participate in the Illinois HIE for non-compliance or failure to act, with respect to applicable standards and laws, in the best interests of patients, users of Illinois HIE or the public, and seek all remedies allowed by law to address any violation of the terms of participation in the Illinois HIE.*
- *Identify barriers to adoption of EHR systems, including researching the rates and patterns of dissemination and use of EHR systems throughout Illinois.*
- *Address gaps in the delivery of care, and evaluate such gaps and provide resources where available, giving priority to health care providers serving a significant percentage of Medicaid or uninsured patients and in medically underserved or rural areas.*
- *Prepare educational materials and educate the general public on the benefits of EHR, the Illinois HIE and the safeguards available to prevent unauthorized disclosure of personal health information.*

Governance: Section 1b

What is the public/private mix of the statewide HIE?

- **Overview**
    - It will be important for the committee to determine the roles of the private sector and the public sector in the governance structure. There is a spectrum of potential options, from completely private to completely public.

- **Private**
    - **Overview:** A completely private market structure is the most hands-off approach and would essentially enable private HIE companies to operate in Nevada with minimal oversight or interference.
    - **Strengths:**
        - Potential for high level of innovation.
    - **Challenges:**
        - Potential privacy and security issues
        - Questionable whether this model is sustainable as interoperability and privacy/security standards increase nationally
        - Likely to be subject to high level of public scrutiny.

- **Public**
    - **Overview:** This is more of a top-down, centralized approach, in which the state determines the HIE standards and technology/vendor that will be used, then provides incentives and/or penalties for providers to adopt the chosen HIE platform.
    - **Strengths:**
        - High level of oversight
        - Uniform approach
        - Provides most universal HIE.
    - **Challenges:**
        - Lack of innovation
        - Less flexible with regards to new technologies.

- **Public/Private Partnership**
    - **Overview:** This approach combines the Private and Public options. A public sector oversight entity would provide standards for HIEs operating in the state. All private sector HIE companies wanting to operate in the State of Nevada would be required to conform to the privacy/security, operational and other standards determined by the oversight entity. Beyond that they would be free to provide the HIE solutions that the market demands.
    - **Strengths:**
        - Fosters innovation, while also providing privacy/security safeguards.
    - **Challenges:**
        - Have to ensure different HIEs/solutions can communicate with one another.

- **What are other states doing?**

  There is a spectrum of structures, with some states (such as California) assigning a greater role to the private sector and others (such as Vermont) to the public sector, choosing a state-designated “exclusive statewide” HIE (VITL) and contracting GE Healthcare to operate the state’s secure data center. To our knowledge, there are no examples of completely private or completely public statewide HIE structures.

Governance: Section 1c

How do SDE's assure user adherence to policies?

- **Overview:**
  - It is important to clarify how to assure HIE participants will adhere to standards and policies.

- **What are other states doing?**
  - Maryland - *Participants of the statewide HIE that violate the Data Use and Reciprocal Support Agreement (DURSA) will be subject to penalties that range from an initial warning to expulsion of privileges to the statewide HIE.*
  - Utah – While the Utah Department of Health retains the statutory authority for electronic exchange of clinical health information, UHIN is the designated state HIE entity to implement the Clinical Health Information Exchange (cHIE). UHIN has a contractual agreement with the state, and with its participating members. *"UHIN has no direct enforcement power."*
    - *The Electronic Commerce Agreement (ECA) covers HIPAA privacy and security requirements and enables our members to avoid having to sign HIPAA Business Associate Agreements with everyone else on the network.*
    - *Because this is a private agreement between members of a private organization, controlling law over the agreement is Utah law and the agreement is between UHIN and its membership. Members are required, as they currently are with paper systems, to report violations and notify appropriate affected parties for improper disclosure.*
    - *Oversight for cHIE compliance with state and federal requirements, standards and policies for meeting all applicable state and federal law is specified in the operating agreement and is part of the contractual agreement of services as specified under this Commerce Agreement; ultimate responsibility resides with the Utah Department of Health for the State HIE Program. UHIN will be under contract to comply with all required standards and federal and state requirements for operation of the cHIE components under the State HIE Program. It is in their trading partners' best interests for all the transactions they receive to comply with the standards. Since, to date, every trading partner has been both a sender and receiver of transactions, this has proven to be an effective*
  - Illinois – The Authority (that's the name of the SDE), was created through statute and is authorized to create bylaws to implement and execute the statutory obligations. OHIT anticipates that the Authority will establish an enforcement function within the Authority, under the direction of an experienced privacy and security professional. It is anticipated that within its first year of operation, the Authority will establish by inter-agency agreement the respective enforcement obligations of the Illinois Attorney General, the HFS Inspector General and the Authority in relation to the investigation and prosecution of violations of federal and state laws and regulations regarding privacy and security of protected health information. (Under the HITECH Act, the State Attorneys General were granted jurisdiction to prosecute in federal courts certain breaches of the federal HIPPA Regulations.)

Governance: Section 1d

What is the structure of the governing body?

- **Overview:**

  - The structure of the governing entity must be designed to facilitate collaboration and cooperation among stakeholders and provide essential checks and balances. Decision-making authority and standards development can also be systemically built into the governance structure.

- **What are other states doing?**
  - Maryland – The Maryland governance structure consists of the MHCC Policy Board, Board of Directors, and an Advisory Board with three committees: the Exchange Technology Committee, the Clinical Excellence and Exchange Services Committee, and the Finance Committee. Each committee is charged to accomplish a specific set of objectives.
  - Utah – UHIN, designated to implement the statewide Clinical Health Information Exchange (cHIE), has a governing structure similar to that of the state of Maryland in that broad stakeholder representation on the boards and committees is sought.
  - Vermont - In August 2008, VITL adopted a new set of bylaws that reduced the size of the VITL board and defined the number of board members that can be drawn from various stakeholder groups. These bylaws set the total number of directors at not less than nine and not more than 11. Of those directors:
    - *At least two but not more than four must be either a health care provider, an employee of a health care provider, or employed by an association representing health care providers.*
    - *At least one of those directors must be employed by a Vermont hospital or be an employee of the Vermont Association of Hospitals and Health Systems.*
    - *One of the seats reserved for health care providers must be occupied by a practicing Vermont physician or an employee of the Vermont Medical Society. In case the seat is occupied by a Vermont Medical Society employee, an additional director shall be a practicing Vermont physician and the number of health care providers who may be directors is increased to a maximum of five.*
    - *At least one director, but no more than two, must be employed by a health insurer.*
    - *At least one director must be from the non-health private business sector.*
    - *One director is appointed by the governor of Vermont.*
    - *One director is appointed by the legislative leadership.*
    - *One director is a representative of a consumer group.*
    - *No more than three directors can be employees of the State of Vermont.*

    Standing committees under the new bylaws were the Executive Committee, the Finance Committee, and the Governance and Nominating Committee. In addition, a Practitioner Advisory Committee and a Consumer Advisory Committee were created.

  - Illinois – A nine member Board of Directors by subordinate committees. The Directors of the Illinois Departments of Healthcare and Family Services, Human Services, Insurance and Public Health and a representative from the Office of the Governor all serve as ex-officio members of the Authority.

Governance: Section 1e

How will quality and performance standards be determined and monitored?

- **Overview:**
    - The 2 year requirement for performance measurement set by the ONC is:
        - Set goals, objectives and performance measures for the exchange of health information that reflect consensus among the health care stakeholder groups and that accomplish statewide coverage of all providers for HIE requirements related to meaningful use criteria to be established by the Secretary through the rulemaking process.

- **What are other states doing?**
    - Utah –UHIN, a policy and standards development organization, is the designated entity to implement the statewide cHIE. *"UHIN only exchanges transactions that comply with UHIN (federal and/or state) standards. Members police transactions to ensure that there is compliance with the UHIN standards. UHIN has no direct enforcement power."*
    - Maryland - The statewide HIE will monitor and track performance related to privacy and confidentiality, technical performance, business practice, resources, and security. A combination of system reports, user satisfaction surveys, town hall meetings, and independent audits will be used to collect data used in assessing performance of the statewide HIE. Reporting will be used to strengthen accountability about what the statewide HIE plans to achieve and what it is accomplishing. *The PMO Director is responsible for monitoring the projects and preparing reports that track the performance of the statewide HIE.*
    - Illinois - A "State Supplier Relationship Management" program currently exists to facilitate discussions of contract goals for cost, quality and/or service. This high level vendor management function is conducted via quarterly review meetings, offering the State and its suppliers guidelines to address performance concerns and to develop action plans that realign expectations consistent with contract terms. It is anticipated that the State's newly appointed Chief Procurement Officer will assume ownership over this program. OHIT will ensure that these vendor management processes are employed for the State's HIT contracts.

Finance: Section 2a

How will the initial infrastructure for the HIT/HIE be paid for?

- **Overview:**

  - ARRA provides funds to serve as seed money for states to build HIE infrastructure. Careful planning is needed, however, because this funding will not be available to support ongoing operations.

- **What are other states doing?**

  Grants/ARRA Funding: Depending on the existing level of HIE infrastructure, states are utilizing grant funding to fund initial infrastructure and/or to expand existing HIEs in a number of ways. However, grant funding is temporary and not to be depended on for ongoing operations, as described below in Nebraska's operational plan.

  - **Nebraska:** *"Grant funds will be used for start up costs for health care providers and regional and specialty health information exchanges to connect to the statewide health information exchange. This includes using funds to make these regional and specialty exchanges operational. The use of grant funds for operations, however, undermines the sustainability of health information exchange. In Nebraska grant funds will be directed toward implementation costs rather than operational costs to the extent possible."*

  Insurance Claims Assessment:

  - **Vermont** – The initial intention was for the Fund to be fully financed through a 0.199 percent assessment on all Vermont health insurance claims. However, this funding method has fallen short, and additional funds have had to be appropriated to cover the shortfall. Currently, this fee is scheduled to end in 2015, at which point a different (yet to be identified) fee basis will implemented.

  Bonds:

  - **Massachusetts** – *"To meet the expenditures necessary, the state treasurer shall, upon request of the governor, issue and sell bonds of the commonwealth to an amount specified by the governor from time to time, not exceeding, in the aggregate, one hundred million dollars."*

  Tax Credit: Some states have also proposed tax credits and deductions for private HIT investment.

  - **Georgia** – *"Provides for an income tax credit with respect to qualified health information technology expenses. Qualified expenses must be made by a physician, pharmacy, or hospital, and tax credit is not to exceed $5,000."*
  - **Illinois** – *"Permits bonus depreciation deductions taken for health information technology"*

  Preference to rural or underserved communities: Some states are providing additional funding or incentives to encourage infrastructure development in rural or underserved communities.

  - **Minnesota** – *"give preference to projects benefiting providers located in rural and underserved areas of Minnesota which the commissioner has determined have an unmet*

need for the development and funding of electronic health records. Grant funds shall be awarded on a three-to-one match basis."

Finance: Section 2b

How will continuing operations be financially sustainable?

Overview:

- Ensuring the financial sustainability of the state HIE will be an important measure of the project's success. The key to finding a sustainable financial plan is first to determine what stakeholders are deriving value from the HIE, then to find an efficient way to charge them for some of the value/savings they are receiving.
- When considering any financial model, it is important to remember that eligible hospitals and providers who meet "meaningful use" requirements will receive financial incentives from CMS, and should be willing to pay for services that enable them to meet these requirements.
- The stakeholders that will derive the most value from an HIE will differ based on the type of model that is chosen.

    - **Value for the Individual and Insurance Companies**
        - Under a centralized model, there is value for the individual in having a centralized, electronic health record that he/she can readily access. There is also value for the insurance companies in reducing duplicate tests and other efficiencies.
        - One plan for financial sustainability in this case would be a small yearly fee for individuals. Insurers could potentially take the initiative to enroll their clients and either cover the cost or include the fee in their clients' yearly premiums.
        - Optional value-added services could also be included in this model, for which individuals or companies would be charged additional fees.

    - **Value for Providers**
        - Under a decentralized model, there is value for providers in the state providing a means for them to meet "meaningful use" requirements. Models for sustainable funding could include user access fees and per-member-per-month fees.

- **What are other states doing?**
  Overall, information on how states plan to finance HIE in the long-term is limited and vague.

    User Fees:
        - **New Mexico:** The state is in negotiations for the five state health plans to contribute matching funds to ongoing operations on a per-member-per month basis.
        - **Illinois** – *"ILHIN may determine, charge, and collect any fees, charges, costs, and expenses from any person or provider that uses the ILHIN."*

    License Fees:
        - **Nebraska –** *"The Nebraska Health Information Initiative (NeHII) is a fully operational and sustainable health information exchange. Currently 13 hospitals, one health plan, and over 300 individual users provide the necessary license revenue to ensure the exchange operates in a financially secure manner. Licenses are purchased from the software*

vendor and resold to participants based on organizational structure. The margin from the licenses is used for operating expenses."

Insurer assessment:

- **New York** – *"health insurers should likewise provide investment in the health care infrastructure of communities, particularly in the area of health information technology as health insurers are an immediate benefactor of health information technology."*

Medicaid:

- **Michigan –** *"…Shall seek financial support for electronic health records, including, but not limited to, personal health records, e-prescribing, web-based medical records, and other health information technology initiatives using Medicaid funds. "*

IT: Section 3a

What type of model/how will data be stored?

- **Centralized Model**
  - **Overview:**
    - A centralized model would consist of a centralized data warehouse, where all patient data would be located. This differs from the current system of patient data being held at the location where it is created, whether at a doctor's office, hospital or other location.
    - Within a centralized model, there are a number of options, including:
      - Patient-owned Health Record Bank
      - State-owned Data Warehouse
      - AMA-owned Data Warehouse
    - The key difference between these three options is who owns the data and the data warehouse. Under current law, the creator of the individual data record is the owner of that record. This is discussed further in section 3b.
  - **Strengths:**
    - This model is less complex than other alternatives and the software/technology needed to implement this model already exists. The main costs for this model would be purchasing the technical hardware upfront for the central data storage facility. There will be ongoing maintenance costs, but the overall personnel and software costs are likely to be lower than in other models.
  - **Challenges:**
    - One of the greatest concerns with this model is ensuring stringent privacy/confidentiality of the centralized data. While ensuring privacy is a concern with all models, it is particularly crucial with a centralized model since all of the data is held at a central location.
    - To safeguard privacy, a change in Nevada law may be necessary. This will be discussed further in Section 3b.
  - **Examples:**
    - Vermont
    - Indiana's main HIE – IHIE, as well as many other regional HIEs
    - Maricopa County is adopting the Health Record Bank model.

- **Decentralized/Distributed Model**
  - **Overview:**
    - In a decentralized model, patient data is held at the facility where it is created, such as a doctor's office or hospital. The data is owned by the facility where it is created, which is consistent with current law and essentially the status quo.
    - In this model, the role of the state Health Information Exchange is to create a way for these different sources to communicate and enable patient data to be queried.

The state HIE would have an "index" that keeps track of the location of patient-specific information, then would able to compile that information when an authorized search is made for the patient's records.

- **Strengths:**
  - Privacy/security issues are less salient than in centralized database.
- **Challenges:**
  - From a technical perspective, this is a complex software challenge. Many private companies are developing software packages to sell to states for this purpose; however it is unclear whether there is a proven solution on the market at present.
- **Examples:**
  - California is an example of a state that has chosen a decentralized or distributed model. In California, the role of the central governance entity is to establish standards for interoperability between HIEs, but it will take a "hands off" approach in how and which HIEs connect to one another. Any entity that meets the established criteria can connect and be both a provider and consumer of services.

- **Hybrid Models**

Core data: Under a core data model, there would be a centralized data bank or warehouse that would hold a certain set of core medical data on each individual, then the remainder of the individual's medical records would be held in a decentralized manner where the patient's record is created.

- **Strengths:**
  - Limited amount of data being held in a centralized manner likely to ease privacy concerns.
- **Challenges:**
  - One question with this model is how it will be sustainably financed. Since only a portion of an individual's medical record is held in a centralized manner, it is more difficult to make a case that either the individual or providers would derive a substantial amount of value from this model. The value of this would depend on how much of an individual's record is included in the "core data," as well as what supplemental, value-added services are offered.
  - Determining exactly what constitutes "core data" could be a challenge.

Florida is pursuing the core date route.

Centralized Record Opt-In: Data is held in a decentralized manner, but the patient has the ability to opt-in to a centralized health record that they control. This differs from the Core Data model in that patient can opt-in to create a comprehensive, centralized electronic health record.

- **Strengths:**
  - Puts the decision of whether to participate in the patient's hands.
- **Challenges:**
  - Lacks single database that can be queried for research or reporting purposes.

- Unclear how this model will integrate individuals who choose to opt-in to the Health Record Bank with those who do not.

Maryland is using the Centralized Record Opt-in Model. From the state operational plan:

"The statewide HIE will utilize a hybrid technology approach, maintaining confidential health care data at the participating facilities and providers, with consumers having an option to request that their information be held in a Health Record Bank (HRB) or Personal Health Record (PHR) account that they control. The HIE will perform as a secure and trusted conduit rather than a centralized repository."

IT: Section 3b

How will privacy be guaranteed?

- **Overview:**

  - Electronic storage and exchange of personal health information poses risks to privacy. This is one of the most controversial aspects of Electronic Medical Records and Health Information Exchanges. If not properly protected, the information contained in an individual's medical record could potentially be used:
    - By an employer in a decision of whether or not to hire/terminate an employee
    - By an insurer to determine whether or not to provide insurance coverage
    - In other, equally, unpalatable situations.

    This is a fundamental concern. Strong safeguards for privacy and security of information will be essential to the success of HIE in Nevada as neither patients nor providers will make full use of a system they do not trust.
    In 2003, the HIPAA Privacy Rule took effect, establishing regulations for the use and disclosure of private health information. This rule was structured to provide a floor of minimum privacy protections for medical records at the federal level. To supplement this, many states have chosen to enact legislation that provides stronger privacy and security protections for sensitive information, such as mental health, substance abuse, HIV/AIDS, and genetic information. However, in Nevada NRS 439.538 establishes HIPAA as the privacy standard for electronic health records in the state:

    "If a covered entity transmits electronically individually identifiable health information in compliance with the provisions of the Health Insurance Portability and Accountability Act of 1996, Public Law 104-191, which govern the electronic transmission of such information, the covered entity is, for purposes of the electronic transmission, exempt from any state law that contains more stringent requirements or provisions concerning the privacy or confidentiality of individually identifiable health information."

- **Recent Developments:**

  - In July 2010, final rules for "meaningful use" of Electronic Health Records were released. There had been a proposal to disqualify providers fined for willful neglect of HIPAA privacy and security regulations from receiving money from federal health IT subsidies. However, this provision was not included in the final meaningful use rules. As a result, the burden of ensuring privacy and security of electronic health records has been left at the state level.

- **Additional Consideration: Who owns the data?**

  - Under current federal and state law, the creator of a data record is the owner of that data. In the context of medical records, any provider that creates an entry in an individual's medical record owns that particular entry.

- When considering privacy and security of data, it would be appropriate to fully analyze the implications of data ownership of health records and what, if any, changes should be made to Nevada law regarding this issue.

- **What are other states doing?**

  - **Vermont** is an example of a state with strong privacy protections, both in law and in the operations of the state HIE (VITL).
    - Under Vermont's patient privilege statute, the patient must approve of any information released from his/her provider.
    - VITL has a "consent to opt in" approach for sharing protected health information across the exchange. No protected health information of any individual is made available over the exchange unless the individual has specifically consented in writing to make this information available to treating providers.
    - Before providing consent, the individual is provided educational information from VITL regarding the exchange and its use by providers for treatment purposes. The individual has access to his/her health information on the exchange and can revoke consent to share information by providing written notice to VITL.
    - An individual's health information can only be used for the purposes of treatment, payment for treatment and health care operations. VITL only makes available on the exchange the information of individuals who have a current written consent on record.
    - VITL also has a rigorous set of security policies that require providers to affirm compliance with the HIPAA Security Rule and that recommends a risk assessment process based on HIPAA requirements that allows providers to demonstrate the application of specific safeguards most appropriate to their size and function. Compliance with these requirements are necessary for participation in the exchange.
  - **Massachusetts:** Providers that connect to the state HIE will have to certify that they have stringent privacy controls in place.
    - *"Sanctions and remedies for breaches of information will be incorporated into the framework to motivate everyone to participate responsibly. MeHI will develop a certification program that will ensure that those authorized to provide information to or retrieve information from the statewide HIE have implemented appropriate processes to protect consumers' health-related information from unauthorized access. They will also ensure that information regarding this process is available, accessible and understandable to the public."*

IT: Section 3c

How will existing HIE's be incorporated into the statewide HIE?

"The success of health information exchange is not dependent upon technology. Rather, success is dependent upon the collaborative spirit of stakeholders within a community itself who agree to health information exchange." – North Carolina HIE Strategic Plan

- **Overview:**
    - The degree to which existing HIE's will be incorporated into statewide HIE programs will be dependent upon the scale of existing HIT.
        - Benefits of incorporating existing efforts include lower initial cost of statewide IT and more rapid adoption among stakeholders.
        - Challenges include greater IT complexity and a lack of standardized data.

- **What are other states doing?**
    - New Mexico/Maryland – A state operated Master Person Index (MPI) runs queries throughout a network of independent HIE databases to gather, compose, and distribute records. As a result, existing efforts are incorporated and utilized by creating a "hub and spoke" network, with the statewide efforts acting as the hub.
    - Utah – Similar to New Mexico and Maryland, Utah will have the same technical arrangement (hub and spoke), although Utah will not maintain its own MPI. The MPI will be a centralized third-party resource maintained by subcontractor Axolotl. Over time, however, a UHIN operated MPI might be incorporated.
    - North Carolina – Implementation of a distributed architecture will be achieved by establishing policies and guidelines for interoperability and standards for CHIO's (Community Health Information Organizations).
    - Vermont – Grants to 2 existing HIE consortiums have been provided to fund connectivity to VITL's statewide HIE. Similar to the aforementioned structures, the statewide HIE will operate, or subcontract the operation of, an MPI and a platform for the normalization and aggregation of data while independent health providers will maintain their own data.
    - Illinois – Existing efforts will be leveraged by implementing connectivity among them, rather than replacing them.

IT: Section 3d

How will universal coverage be attained?

- **Overview:**
  - Statewide coverage faces two significant barriers:
    - Gaps of broadband availability
    - HIE adoption

- **What are other states doing?**
  - Illinois - OHIT intends to facilitate EHR adoption by:
    1) Conduct second annual EHR/HIE Adoption Survey utilizing a broad distribution model of statewide stakeholders;
    2) Coordinate communication and outreach methods with the State Medicaid HIT Plan, Illinois RECs and provider organizations;
    3) Routinely survey eligible professionals about their EHR adoption/implementation status as they renew their professional licenses through the Illinois Department of Professional Regulations.
  - Washington – *"The infrastructure developed by eHCE will be available to the broadest range of statewide providers that resources and best practices can support. Data capture and analysis tools will be built into the program design to identify nonusers, particularly among the priority providers for targeting REC services, and explore barriers to use."*
  - Maryland - The statewide HIE plans to engage physicians in the HIE through education, involve them in decisions concerning the implementation, and provide a feedback mechanism that will facilitate changes in a timely manner. These components are vital to increase physician EHR adoption and HIE participation. *Education will center on the explanation, description, and benefits of a statewide HIE in improving health care quality and efficiency, preventing medical errors, and reducing health care costs by delivering essential information to the point of care. Education will also highlight the usefulness of the statewide HIE for addressing issues including quality and efficiency measurements, pay-for-performance, pay-for-participation, e-prescribing, and emerging care delivery models such as the Patient Centered Medical Home.*
  - Tennessee is leveraging its state network (NetTN) as a resource for private health providers to access. The state is offering access to the network at a lower cost than can typically be found on the open market. NetTN was created through a contract with AT&T, and is being expanded through a program called Tennessee eHealth Network.
  - Oregon – 2 Initiatives:
    - 1st – Provide broadband to rural areas at a lower cost than found in the marketplace.
    - 2nd – Use mapping to identify and determine priority of future broadband planning efforts.

IT: Section 3e

Can consumers access/verify information?

- **Overview:**
    - ONC's Privacy and Security guidelines state that:
        - *1) Individuals should be provided with a simple and timely means to access and obtain their individually identifiable health information, in a readable form and format, and*
        - *2) Individuals should be provided with a timely means to dispute the accuracy or integrity of their individually identifiable health information, and to have erroneous information corrected or, if their requests are denied, to have a dispute documented.*

- **Options:**
    - **Online Access:** An online access option would allow individuals to access their health record through a secure online portal, and enable them to view their record and verify that it is accurate. This is likely to be more feasible under a centralized structure.
        - This is likely to be the most cost efficient and user-friendly way to achieve individual access.
        - However, ensuring privacy and security of online access will be a primary concern, and will have to be considered thoroughly.
    - **Kiosk Access:** Within a decentralized structure, a kiosk approach may be a more efficient way to enable individuals to access and verify their information. Kiosks could be located in convenient places within a hospital or large medical group and individuals could review their records on-site.
        - Privacy and security are also concerns with this approach.
        - Ensuring fair access for all, particularly in rural communities could be a challenge.
    - **Hard Copy By Request:** Another option could be for individuals to be able to request a hard copy of their records from the state HIE.
        - There could be a fee charged to cover printing/mailing costs, or an individual could request an electronic/pdf copy for free.
        - Security measures will be needed to verify that the correct individual is requesting the record.

APPENDIX A: List of Statewide HIE's

Arizona: AzHeC - Arizona Health-e Connection

California: Cal eConnect

Colorado: CORHIO - Colorado Regional Health Information Organization

Delaware: DHIN - Delaware Health Information Network

Idaho: IHDE - Idaho Health Data Exchange

Indiana: IHIE - Indiana Health Information Exchange

Montana: HSM - HealthShare Montana

New Jersey: NJHIN – New Jersey Health Information Network

New Mexico: NMHIC – New Mexico Health Information Collaborative

North Carolina: HWTF – Health and Wellness Trust Fund

Oregon: HITOC – Health Information Technology Oversight Council

Pennsylvania: PHIX – Pennsylvania Health Information Exchange

Rhode Island: RIQI – Rhode Island Quality Institute

South Carolina: SCHIEx – South Carolina Information Exchange

Tennessee: HIP TN – Health Information Partnership for Tennessee

Utah: UHIN – Utah Health Information Network

Vermont: VITL – Vermont Information Technology Leaders

Washington: eHCE – eHealth Collaborative Enterprise

APPENDIX B: Governance Roles Identified By North Carolina

Role	Governance		Technical Operations
Function	**Convene**	**Coordinate**	**Operate/Manage**
Task	➢ Provide neutral forum for all stakeholders ➢ Educate constituents & inform HIE policy deliberations ➢ Advocate for statewide HIE ➢ Serve as an information resource for local HIE and health IT activities ➢ Track/assess national HIE and health IT efforts ➢ Facilitate consumer input	➢ Develop and lead plan for implementation of statewide solutions for interoperability ➢ Promote consistency and effectiveness of statewide HIE policies and practices ➢ Support integration of HIE efforts with other healthcare goals, objectives, & initiatives ➢ Facilitate alignment of statewide, interstate, national HIE strategies	➢ Serve as central hub for statewide or national data sources and shared services ➢ Own or contract with vendor(s) for the hardware, software, and/or services to conduct HIE ➢ Provide administrative support & serve as a technical resource to local HIE efforts

Source: North Carolina HIE Strategic Plan

APPENDIX C: HIT Efforts of State Legislatures

The following website allows one to search state legislative efforts based on specific criteria including E-Prescribing, EMR's, EHR's, Financing, HIE, Informatics Workforce, Medicaid and SCHIP, PHR's, Privacy and Security, Public Health, Quality Improvement, Standards, Study Commission/Taskforce, and Telemedicine:

http://www.ncsl.org/default.aspx?tabid=14087

For example, a search for Nevada bills enacted over the past 3 years regarding HIT yields the following:

Nevada

NV AB 112 **AN ACT relating to public health;** (*Last Update: 9/9/2009*)

Sponsor: Legislative Comm. on Health Care

Session Year: 2009

Bill Type: House/Assm Bill **Date of Last Action:** 5/18/2009 **Status:** Enacted

Topics: Electronic Health Records | Electronic Medical Records | Privacy and Security | Public Health | Study Commission/Taskforce

Citation: NV AB 112

Summary: establishes the Committee on Public Health Emergencies which is required, among other things to work cooperatively with the health authority and law enforcement agency with jurisdiction over a public health emergency to secure the medical records, whether maintained in written, electronic or other form, of patients of a facility which provides health care.

NV AB 370 **Makes various changes to provisions governing pharmacies.** (*Last Update: 9/10/2009*)

Sponsor: Rep. Carpenter

Session Year: 2009

Bill Type: House/Assm Bill **Date of Last Action:** 5/28/2009 **Status:** Enacted

Topics: E-Prescribing | Informatics Workforce | Standards | Telemedicine

Citation: NV AB 370

Summary: Existing law authorizes the issuance of a license to an applicant to conduct a pharmacy upon compliance with all licensing requirements. (NRS 639.231) This bill authorizes the establishment of remote sites and satellite consultation sites for the dispensing of prescriptions, and telepharmacies, which are connected to

such sites via computer link, video link and audio link to enable a registered pharmacist or a dispensing practitioner at the telepharmacy to oversee the dispensing of prescriptions to patients at a remote site or satellite consultation site. Section 6 of this bill requires a remote site or satellite consultation site to be located at least 50 miles from the nearest pharmacy and in a service area with a total population of less than 2,000. Section 6 also authorizes such sites to be operated by a pharmaceutical technician or a dispensing technician. Section 6 further requires the State Board of Pharmacy to adopt regulations which establish the manner of determining a "service area." Sections 8 and 9 of this bill exempt those sites from the requirement that every pharmacy must be managed by a registered pharmacist. (NRS 639.220, 639.284) Section 5 of this bill requires the State Board of Pharmacy to adopt regulations for the operation of remote sites, satellite consultation sites and telepharmacies and for the definition, registration, discipline, qualifications, powers and duties of dispensing practitioners and dispensing technicians.

NV SB 17 **revising provisions governing the** (*Last Update: 9/9/2009*)

Sponsor: Sen. Weiner

Session Year: 2009

Bill Type: Senate Bill **Date of Last Action:** 6/4/2009 **Status:** Enacted

Topics: Electronic Health Records | Electronic Medical Records | Personal Health Records | Privacy and Security

Citation: NV SB 17

Summary: requires a healthcare provider to provide a patient with written notice at least 30 days before destroying the patient?s healthcare record of the date of that record?s destruction.

SB 536 (*Last Update: 9/23/2008*)

Sponsor: Human Resources and Education Committee

Session Year: 2007

Bill Type: Senate Bill **Date of Last Action:** 6/13/2007 **Status:** Enacted

Topics: Health Information Exchange | Medicaid and SCHIP | Privacy and Security

Citation: SB 536

Summary: Exempts from more stringent state laws HIPAA-covered entities that electronically transmit individually identifiable health information in compliance with HIPAA provisions. Allows individuals to opt out of the electronic transmission of individually identifiable health information, with exceptions for Medicaid and SCHIP patients and when required by HIPAA or state law.

References

"California Health Information Exchange Operational Plan." 31 Mar 2010. Web. 23 May 2010. <http://www.ehealth.ca.gov/LinkClick.aspx?fileticket=zK7zQxE20no%3d&tabid=72>.

"Colorado's State Health Information Exchange Strategic Plan." CORHIO, Oct 2009. Web. 23 May 2010. <http://corhio.org/media/4901/coloradostatehealthinformationexchangestrategicplan.pdf>.

"Health Information Exchange (HIE) Business Models The Path to Sustainable Financial Success." Deloitte, 2006. Web. 23 May 2010. <http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_chs_hie-business-models_111306%281%29.pdf>.

"Health Information Technology 2007 and 2008 State Legislation." National Conference of State Legislatures, n.d. Web. 23 May 2010. <www.ncsl.org/print/health/forum/HIT_Enacted.pdf>.

"Health Information Technology and States A Project Report from NCSL's Health Information Technology Champions." National Conference of State Legislatures, Web. 23 May 2010. <http://www.ncsl.org/default.aspx?tabid=13860>.

"Health IT Policy Committee: Recommendations to the National Coordinator for Health IT." 2010. Web. 15 Aug 2010. <http://healthit.hhs.gov/portal/server.pt?open=512&objID=1815&parentname=CommunityPage&parentid=37&mode=2&in_hi_userid=11673&cached=true>.

"Health Privacy." *Center for Democracy and Technology*. N.d. Web. 2 Aug 2010. http://www.cdt.org/issue/health-privacy

"Issues & Research: Health." *National Conference of State Legislatures*. Web. 1 Sep 2010. <http://www.ncsl.org/IssuesResearch/Health/tabid/160/Default.aspx>.

"Maryland Health Information Technology State Plan FY 2010 - FY 2013." Maryland Health Care Commission, n.d. Web. 14 Jul 2010. <http://mhcc.maryland.gov/electronichealth/hiestateplan/hit_state_plan_060910.pdf>

"Minnesota's State-level HIE Efforts – Summary." 2009. Web. 15 Aug 2010. <http://www.dss.mo.gov/hie/resources/workgroup2009/minnesota.pdf>.

"Nebraska Operational eHealth Plan." Nebraska Information Technology Commission, 20 Apr 2010. Web. 18 Jul 2010. <http://www.nitc.nebraska.gov/eHc/plan/Operational%20Plan%20April%2020.pdf>.

"Nevada Revised Statutes." *NRS: Chapter 439 - Administration of Public Health*. 2009. Web. 3 Aug 2010. <http://www.leg.state.nv.us/Division/Legal/LawLibrary/NRS/NRS-439.html#NRS439Sec527>.

"New Jersey Plan for Health Information Technology ." 16 Oct 2009. Web. 23 May 2010. <http://www.nj.gov/health/bc/documents/njstatehealthitplan.pdf>.

"Office of the National Coordinator for Health Information Technology ." *Services, Nationwide Privacy and Security Framework For Electronic Exchange of Individually Identifiable Health Information*. U.S. Department of Health and Human Services, 15 Dec 2008. Web. 15 Aug 2010.

"Overview of Financing Considerations for Statewide Health Information Exchange." Manatt Health Solutions, 21 Nov 2008. Web. 7 May 2010. <http://statehieresources.org/wp-content/uploads/2009/12/Financing-of-Statewide-HIE-An-Overview.pdf>.

"Planning and Implementing a Health Information Exchange Network: *A Guide for State Designated Entities*." Accenture, 2009. Web. 6 May 2010. <http://www.accenture.com/Global/Services/By_Industry/Health_and_Life_Sciences/Government_Health/R_and_I/Health-Information-Exchange-Networks.htm>.

"Vermont's State-level HIE Efforts – Summary." 2009. Web. 15 Aug 2010. <http://www.dss.mo.gov/hie/resources/workgroup2009/vermont.pdf>.

"Utah cHIE American Recovery and Reinvestment Act State Health Information Exchange Cooperative Agreement Proposal." State of Utah, March 2010. Web. 16 Aug 2010. <http://health.utah.gov/phi/ehealth/UT_HIE_OperationalPlan_March2010.pdf>.

"New Mexico Health Information Exchange Strategic and Operational Plans." State of New Mexico, March 24, 2010. Web. 16 Aug 2010. <http://www.nmhic.org/supporting_files/NM%20State%20HIE%20Strategic%20and%20Operational%20Plan%20V2.pdf.pdf>.

"Washington State Health Information Exchange." State of Washington, July 6, 2010. Web. 16 Aug 2010. <http://www.onehealthport.com/HIE/Washington%20State%20HIE%20Strat%20Ops%20Plan%20Final%20070610.pdf>.

"North Carolina Health Information Exchange Strategic Plan." State of North Carolina, October 2009. Web. 16 Aug 2010. <http://www.healthwellnc.com/healthit/Docs/HITC_NCHIE_StrategicPlan.pdf>.